Notice of Allowability	Application No.	Applicant(s)	
	10/806,637	ARAM ET AL.	
	Examiner	Art Unit	
	Kandasamy Thangavelu	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *30 October 2007*.

2. ☒ The allowed claim(s) is/are *1-3,5-8,10-14,16,18-24,27,30-33,37-39 and 43*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other *Clean copy of Allowed Claims*.

DETAILED ACTION

Introduction

1. This communication is in response to the Applicants' communication dated October 30, 2007. Claims 1-3, 5-8, 10-14, 16, 18-24, 27-28, 30-33, 37-39 and 41-43 were amended. Claims 4, 9, 15, 17, 25-26, 29, 34-36, 40 and 44 were canceled. Claims 1-3, 5-8, 10-14, 16, 18-24, 27-28, 30-33, 37-39 and 41-43 of the application are pending.

Examiner's Amendment

2. Authorization for this examiner's amendment was given in a telephone conversation by Mr. David Lockman on January 15, 2008.

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to the applicants, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. In the claims:

Replace claims 1-3, 5-8, 10-14, 16, 18-24, 27-28, 30-33, 37-39 and 41-43 with:

1. A computer system that generates a set of artificial implant model data used to fabricate an artificial implant that provides a set of ranges of motions for a joint depicted in joint motion image data for a plurality of corresponding joints in a plurality of subjects comprising:

an anthropometric data analyzer executing on a computer for receiving joint motion image data representative of the plurality of corresponding joints in the plurality of subjects, and the received data being displayed by the anthropometric analyzer on a display to enable an operator to select points that identify a plurality of geometric dimensions and ranges of values for the identified geometric dimensions;

an implant model generator executing on the computer, the implant model generator receiving the identified geometric dimensions and the ranges of values for the identified geometric dimensions that were generated by the anthropometric data analyzer and generating a set of artificial implant model data for fabricating the artificial implant that corresponds to the identified geometric dimensions and a set of discrete values for the identified geometric dimensions for the artificial implant from the identified geometric dimensions and the ranges of values for the identified geometric dimensions;

a kinematic model simulator executing on the computer, the kinematic model simulator incorporating the set of artificial implant model data generated by the implant model generator in a kinematic model of the joint, and simulating movement of the joint with the kinematic model to generate motion versus time data;

a motion data analyzer executing on the computer that compares the motion versus time data generated by the kinematic model simulator with motion versus time data from the joint

motion image data used to identify the geometric dimensions and the ranges of values for the identified geometric dimensions that were used to generate the set of artificial implant model data to determine whether the artificial implant corresponding to the set of artificial implant model data provides the set of ranges of motions for the joint depicted in the joint motion image data; and

a database coupled to the computer executing the motion data analyzer to receive and store the set of artificial implant model data in a database file, in response to the motion data analyzer determining the artificial implant corresponding to the set of artificial implant model data provides the set of ranges of motions for the joint depicted in the joint motion image data to enable the artificial implant model data to be retrieved for fabricating the artificial implant.

2. The computer system of claim 1 further comprising:

the motion data analyzer receives the motion versus time data generated by the kinematic model simulator and generates differential dimensional data for modifying the set of artificial implant model data in response to the motion versus time data generated by the kinematic model simulator indicating that the artificial implant corresponding to the set of artificial implant model data does not provide the set of ranges of motions for the joint depicted in the joint motion image data.

3. The computer system of claim 2 wherein the implant model generator receives the differential dimensional data from the motion data analyzer and modifies the set of artificial

implant model data with the differential dimensional data to generate a second set of artificial implant model data;

the kinematic model simulator incorporates the second set of artificial implant model data in the kinematic model of the joint to generate a second kinematic model of the joint and simulates movement of the joint with the second kinematic model to generate a second set of motion versus time data;

the motion data analyzer determines whether the artificial implant corresponding to the second set of artificial implant model data provides the set of ranges of motions for the joint depicted in the joint motion image data; and

the database stores the second set of artificial implant model data in a database file in response to the determination that the artificial implant corresponding to the second set of artificial implant model data provides the set of ranges of motions for the joint depicted in the joint motion image data to enable the second set of artificial implant model data to be retrieved for fabricating the artificial implant.

5. The computer system of claim 1 wherein the anthropometric data analyzer receives computed tomography (CT) data for the plurality of corresponding joints for the plurality of subjects for analysis.

6. The computer system of claim 1 wherein the anthropometric data analyzer receives magnetic resonance image (MRI) data for the plurality of corresponding joints for the plurality of subjects for analysis.

7. The system of claim 1 wherein the anthropometric data analyzer executing on the computer analyzes static image data.

8. The computer system of claim 7 wherein the anthropometric data analyzer executes on a computer aided design (CAD) system to enable the operator to select a feature in the static image data to define a geometric dimension and to measure the defined geometric dimension.

10. The computer system of claim 1 the system further comprising:

a patient model emulator executing on the computer to generate emulation force vectors that are used by the kinematic model simulator to simulate movement of the joint with the kinematic model.

11. The computer system of claim 10 wherein the patient model emulator generates the emulation force vectors from image data of the joint in motion.

12. The computer system of claim 11 wherein the patient model emulator generates the emulation force vectors from fluoroscopic image data of the joint in motion.

13. The computer system of claim 12 wherein the kinematic model simulator receives the emulation force vectors generated by the patient model emulator and applies the emulation

force vectors to the kinematic model to generate motion versus time data for the simulated movement of the joint.

14. The computer system of claim 13 wherein the motion data analyzer compares the motion versus time data that was generated by the kinematic model simulator to motion versus time data from the fluoroscopic image data used to generate the emulation force vectors.

16. The computer system of claim 14 wherein the motion data analyzer generates a set of differential dimensional data for modification of the set of artificial implant model data to reduce a likelihood of motion interference occurring from an implantation of the artificial implant corresponding to the set of artificial implant model data.

18. A method for operating a computer system to generate a set of artificial implant model data used to fabricate an artificial implant that provides a set of ranges of motions for a joint depicted in joint motion image data for a plurality of corresponding joints in a plurality of subjects comprising:

displaying joint motion image data for the plurality of corresponding joints in the plurality of subjects to enable an operator to identify a plurality of geometric dimensions and ranges of values for the identified geometric dimensions;

generating the set of artificial implant model data for fabricating the artificial implant that corresponds to the identified geometric dimensions and a set of discrete values for the identified

geometric dimensions for the artificial implant from the identified geometric dimensions and the ranges of values for the identified geometric dimensions;

incorporating the set of artificial implant model data in a kinematic model of the joint;

generating emulation force vectors from image data of the joint in motion;

applying the emulation force vectors to the kinematic model to simulate movement of the joint with the kinematic model and generating motion versus time data for the simulated movement of the joint;

comparing the motion versus time data generated for the simulated movement of the joint to motion versus time data from the joint motion image data used to identify the geometric dimensions and the ranges of values for the identified geometric dimensions that were used to generate the set of artificial implant model data to determine whether the artificial implant corresponding to the set of artificial implant model data provides the set of ranges of motions for the joint depicted in the joint motion image data; and

storing the set of artificial implant model data in a database file in response to the determination that the artificial implant corresponding to the set of artificial implant model data provides the set of ranges of motions for the joint depicted in the joint motion image data to enable the artificial implant model data to be retrieved for fabricating the artificial implant.

19. The method of claim 18 further comprising:

generating differential dimensional data to modify the set of the artificial implant model data in response to the comparison of the motion versus time data generated from the simulated movement of the joint with the kinematic model indicating that the artificial implant

corresponding to the set of artificial implant model data produces motion interference during the simulated movement of the joint with the kinematic model; and

modifying the set of artificial implant model data with the generated differential dimensional data to generate a second set of artificial implant model data.

20. The method of claim 19 further comprising:

incorporating the second set of artificial implant model data in the kinematic model of the joint to generate a second kinematic model of the joint;

applying the emulation force vectors to the second kinematic model to simulate movement of the joint and generating motion versus time data for the simulated movement of the joint with the second kinematic model;

comparing the motion versus time data generated for the simulated movement of the joint with the second kinematic model to motion versus time data from the joint motion image data used to identify the geometric dimensions and the ranges of values for the identified geometric dimensions to determine whether the artificial implant corresponding to the second set of artificial implant model data provides the set of ranges of motions for the joint depicted in the joint motion image data; and

storing the second set of artificial implant model data in a database file in response to the determination that the artificial implant corresponding to the second set of artificial implant model data provides the set of ranges of motions for the joint depicted in the joint motion image data to enable the second set of artificial implant model data to be retrieved for fabricating the

artificial implant.

21. The method of claim 18 wherein the display of joint motion data includes display of computed tomography (CT) data for the plurality of corresponding joints in the plurality of subjects.

22. The method of claim 18 wherein the display of joint motion data includes display of magnetic resonance image (MRI) data for the plurality of corresponding joints in the plurality of subjects.

23. The method of claim 18 wherein the display of joint motion data includes of three dimensional image data for the plurality of corresponding joints in the plurality of subjects.

24. The method of claim 18 wherein the display of the joint motion image data includes enabling an operator to select a feature in static image data to define a geometric dimension and to measure the defined geometric dimension.

27. The method of claim 19 wherein the artificial implant model data modification includes modification of the set of artificial implant model data using fluoroscopic image data of the plurality of corresponding joints in motion from the plurality of subjects.

28. Canceled.

30. The method of claim 18 wherein the comparison of the motion versus time data generated for the simulated movement of the joint to the motion versus time data from the joint motion image data includes identifying motion interference during the movement of the joint.

31. The method of claim 30 wherein the comparison of the motion versus time data generated for the simulated movement of the joint to the motion versus time data from the joint motion image data includes generating a set of differential dimensional data for modification of the set of artificial implant model data to reduce a likelihood of motion interference occurring from an implantation of the artificial implant corresponding to the set of artificial implant model data.

32. A computer system that generates a set of artificial implant model data used to fabricate an artificial implant that provides a set of ranges of motions for a joint depicted in joint motion image data for a plurality of corresponding joints in a plurality of subjects, comprising:

a motion data analyzer executing on a computer for receiving joint motion image data for the plurality of corresponding joints in the plurality of subjects, the motion data analyzer grouping the joint motion image data into sets that are correlated by ranges of motions for a particular activity for the joint depicted in the joint motion image data;

an anthropometric data analyzer executing on the computer to display one of the sets of joint motion image data correlated by the ranges of motions for the particular activity to enable

an operator to identify geometric dimensions and measurement ranges of values for the identified geometric dimensions from the one set of joint motion image data;

an artificial implant model generator executing on the computer to generate a set of artificial implant model data for fabricating the artificial implant that corresponds to the identified geometric dimensions and a set of discrete values for the identified geometric dimensions for the artificial implant from the identified geometric dimensions and the measurement ranges of values for the identified geometric dimensions for the one set of joint motion image data correlated by the ranges of motions for the particular activity;

a kinematic model simulator executing on the computer, the kinematic model simulator simulating movement of the joint with the artificial implant model data received from the artificial implant model generator and generating motion versus time data from the simulated movement of the joint for the one set of joint motion image data correlated by the ranges of motions for the particular activity;

the motion data analyzer comparing the motion versus time data generated by the kinematic model simulator with motion versus time data from the one set of joint motion image data used to identify the geometric dimensions and the measurement ranges of values for the identified geometric dimensions that were used to generate the set of artificial implant model data to determine whether the artificial implant corresponding to the set of artificial implant model data provides the set of ranges of motions for the joint for the particular activity for the joint depicted in the one set of joint motion image data; and

a database coupled to the computer executing the motion data analyzer, the database receiving and storing the artificial implant model data in a database file in response to the

comparison of the motion versus time data indicating the artificial implant model data provides the set of ranges of motions for the joint for the particular activity for the joint depicted in the one set of joint motion image data, for later retrieval and use in fabrication of an artificial implant.

33. The computer system of claim 32 wherein the motion data analyzer receives fluoroscopic image data of the plurality of corresponding joints in motion from a database in which fluoroscopic image data are stored.

37. The computer system of claim 33 further comprising:

the motion data analyzer receives the motion versus time data from the kinematic model simulator and generates differential dimensional data for modifying the artificial implant model data in response to the comparison of the motion versus time data from the simulated movement of the joint to the motion versus time data from the one set of joint motion image data indicating that the artificial implant corresponding to the artificial implant model data does not provide the ranges of motions for the particular activity for the joint depicted in the one set of joint motion image data.

38. A method for operating a computer system to generate an artificial implant design corresponding to a set of artificial implant model data that is used to fabricate an artificial implant that provides a set of ranges of motions for a joint depicted in joint motion image data for a plurality of corresponding joints in a plurality of subjects, comprising:

executing a program on a computer to analyze joint motion image data for the plurality of corresponding joints in the plurality of subjects to group the joint motion image data into sets, each set corresponding to a set of ranges of motions for an activity for the joint depicted in the joint motion image data;

executing a program on the computer to display one of the sets of the joint motion image data to enable an operator to identify geometric dimensions and measurement ranges of values for the identified geometric dimensions, the identified geometric dimensions and measurement ranges of values for the identified geometric dimensions corresponding to the one set of joint motion image data;

executing a program on the computer to generate a set of artificial implant model data for fabricating the artificial implant that corresponds to the identified geometric dimensions and a set of discrete values for the identified geometric dimensions for the artificial implant from the identified geometric dimensions and the measurement ranges of values for the identified geometric dimensions for the one set of joint motion image data;

executing a program on the computer to incorporate the set of artificial implant model data into a kinematic model of the joint;

executing a program on the computer to simulate movement of the joint with the kinematic model of the joint and generating motion versus time data from the simulation of movement of the joint with the kinematic model of the joint;

executing a program on the computer to compare the generated motion versus time data from the simulation of movement of the joint to motion versus time data for the ranges of

motions for the activity depicted in the one set of joint motion image data used to generate the set of artificial implant model data; and

executing a program on the computer to store the set of artificial implant model data in a database file in response to the motion versus time data generated for the simulated movement of the joint corresponding to the ranges of motions for the activity depicted in the one set of joint motion image data, for later retrieval and use in fabrication of an artificial implant.

39. The method of claim 38 wherein the analysis of the joint motion image data performed by the computer includes receiving fluoroscopic image data of the plurality of corresponding joints in motion in the plurality of subjects.

41. Canceled.

42. Canceled.

43. The method of claim 38 wherein the comparison of the generated motion versus time data from the simulation of movement of the joint to motion versus time data for the ranges of motions for the activity depicted in the one set of joint motion image data used to generate the set of artificial implant model data includes:

generating a set of differential dimensional data in response to the comparison indicating that the artificial implant model did not correspond to the ranges of motions for the activity depicted in the one set of joint motion image data.

A clean copy of allowed claims is attached.

Reasons for Allowance

4. Claims 1-3, 5-8, 10-14, 16, 18-24, 27, 30-33, 37-39 and 43 of the application are allowed over prior art of record.

5. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

The closest prior art of record shows:

(1) an apparatus for facilitating the implantation of an artificial component in one of a hip joint, a knee joint, a hand and wrist joint, an elbow joint, a shoulder joint and a foot and ankle joint; a large number of total hip replacement (THR) operations are redo procedures due to dislocation, component wear and degradation and loosening of the implant from the bone; most common cause of dislocation is the impingement of the femoral neck with either the rim of an acetabular cup implant or soft tissue or bone surrounding the implant; variations in anatomies require variations in optimal design and orientation of hip replacement components and surgical procedure to minimize the dislocation propensity; variations in anatomies affect the permitted amount of motion before impingement and dislocation; the apparatus allows the medical practitioner to determine an optimal size and location of the artificial components in a joint to provide the desired range of motion of the joint following surgery, to lessen the possibility of

subsequent dislocation; the apparatus uses a pre-operative geometric planner to create geometric models of the joint and the components to be implanted based on the geometric data of the skeletal structure; the apparatus includes a kinematic biomechanical simulator that simulates the movement of the joint using the geometric models to determine the implant positions and angular orientations; the implant positions are used with the geometric models in intra-operative navigational software to guide the medical practitioner in the placement of the implant components at implant positions; the pre-operative geometric planner, the kinematic biomechanical simulator and the intra-operative navigational software are implemented in a computer system having a display; the display is used for viewing and interactively creating the geometric models in the pre-operative planner and displaying the results of the biomechanical simulator; an optical tracking system is used with a camera attached to the computer system to detect light emitted from a number of light emitting diodes attached to the bones and other objects; the skeletal structure of the joint is determined from computer tomographic data generated using computed tomography, magnetic resonance imaging or ultrasound scanning **(DiGioia, III et al.,** U.S. Patent 6,205,411);

(2) process for manufacturing orthopedic implants and method of implanting orthopedic implants; plastic implants are preferred over metals and ceramic, due to low weight, high mechanical strength, toughness and chemical inertness; a joint replacement should provide pain-free and smooth movement for the patients replicating the functionality and movement of the respective natural joint; in endo-prosthesis, two bearing surfaces are replaced by artificial prostheses, creating an artificial joint which may produce high friction and wear problems over a period of time, depending on the patient's activity; successful arthoplasty requires bio-

compatibility of surrounding tissues, good adhesion and stable fixation of the prosthesis to the bone and negligible friction without formation of wear debris of the joint elements during service under dynamic load; continuous friction and accelerated wear of two contacted non lubricated surfaces, one moving with respect to the other are the result of surface roughness; lubrication minimizes frictional resistance between surfaces by keeping them apart; polymers, metals, ceramics and composite materials are potential implant materials (**Buchman et al.,** U.S. Patent Application 2003/0097182); and

(3) systems and methods for monitoring wear and displacement between artificial joint members; total joint arthoplasty involves replacement of a damaged joint with an artificial joint assembly to restore the motion to the joint and the function to the muscles and ligaments and other soft tissues that operate and control the joint; total joint arthoplasty involves implantation of two or more artificial joint members into respective natural joint members to replace deteriorated natural articulating surfaces with artificial equivalents; the artificial joint components are designed to provide stable and permanent attachment to the natural adjacent body tissues; loosening of the artificial joint members can occur resulting in artificial joint relocation which can lead to loss of function, bone deterioration and tissue debris generation; relocation can lead to increased wear of the articulating surfaces, resulting in reduced function of the artificial joint; as the wear of the joint progresses, further loosening of the joint implant may occur; the extent of loosening and the wear of the artificial joint is determined by X-ray or computed tomography or magnetic resonance image of the implanted joint (**Mendes et al.,** U.S. Patent Application 2002/0115944).

Additional state of the art reviewed and considered by the Examiner is found in U.S. Patent Application 2004/0267242; U.S. Patent Application 2005/0033439; U.S. Patent Application 2006/0167559; U.S. Patent Application 2004/0176851; U.S. Patent Application 2002/0128715; U.S. Patent 7,029,479; U.S. Patent Application 2002/0035400; U.S. Patent Application 2003/0157187; U.S. Patent Application 2006/0167550.

None of these references taken either alone or in combination with the prior art of record discloses a computer system that generates a set of artificial implant model data used to fabricate an artificial implant that provides a set of ranges of motions for a joint depicted in joint motion image data for a plurality of corresponding joints in a plurality of subjects, specifically including:

(Claim 1) "an implant model generator executing on the computer, the implant model generator receiving the identified geometric dimensions and the ranges of values for the identified geometric dimensions that were generated by the anthropometric data analyzer and generating a set of artificial implant model data for fabricating the artificial implant that corresponds to the identified geometric dimensions and a set of discrete values for the identified geometric dimensions for the artificial implant from the identified geometric dimensions and the ranges of values for the identified geometric dimensions" in combination with the remaining elements and features of the claimed invention.

None of these references taken either alone or in combination with the prior art of record discloses a method for operating a computer system to generate a set of artificial implant model data used to fabricate an artificial implant that provides a set of ranges of motions for a joint

depicted in joint motion image data for a plurality of corresponding joints in a plurality of subjects, specifically including:

(Claim 18) "generating the set of artificial implant model data for fabricating the artificial implant that corresponds to the identified geometric dimensions and a set of discrete values for the identified geometric dimensions for the artificial implant from the identified geometric dimensions and the ranges of values for the identified geometric dimensions" in combination with the remaining elements and features of the claimed invention.

None of these references taken either alone or in combination with the prior art of record discloses a computer system that generates a set of artificial implant model data used to fabricate an artificial implant that provides a set of ranges of motions for a joint depicted in joint motion image data for a plurality of corresponding joints in a plurality of subjects, specifically including:

(Claim 32) "an artificial implant model generator executing on the computer to generate a set of artificial implant model data for fabricating the artificial implant that corresponds to the identified geometric dimensions and a set of discrete values for the identified geometric dimensions for the artificial implant from the identified geometric dimensions and the measurement ranges of values for the identified geometric dimensions for the one set of joint motion image data correlated by the ranges of motions for the particular activity" in combination with the remaining elements and features of the claimed invention.

None of these references taken either alone or in combination with the prior art of record discloses a method for operating a computer system to generate an artificial implant design

corresponding to a set of artificial implant model data that is used to fabricate an artificial implant that provides a set of ranges of motions for a joint depicted in joint motion image data for a plurality of corresponding joints in a plurality of subjects, specifically including:

(Claim 38) "executing a program on the computer to generate a set of artificial implant model data for fabricating the artificial implant that corresponds to the identified geometric dimensions and a set of discrete values for the identified geometric dimensions for the artificial implant from the identified geometric dimensions and the measurement ranges of values for the identified geometric dimensions for the one set of joint motion image data" in combination with the remaining elements and features of the claimed invention.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kandasamy Thangavelu whose telephone number is 571-272-3717. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez, can be reached on 571-272-3753. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC 2100 Group receptionist: 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K. Thangavelu
Art Unit 2123
January 15, 2008

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100